



**SEQUENCE LISTING**

<110> Davydova, Elena K.  
Rothman-Denes, Lucia B.  
Dahl, Gary A.  
Gerdes, Svetlana Y.  
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<120> Preparation and Use of Single-Stranded Transcription Substrates for Synthesis of Transcription Products Corresponding to Target Sequences

<130> EPICEN-09584

<140> 10/719,372

<141> 2003-11-21

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<170> PatentIn version 3.3

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Glu Leu Ala Ser Ala Tyr Leu Asn Asp Phe Met Gln Phe Ala Gln His  
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Met Gln Asn Lys Val Gly Ala Leu Asn Glu His Leu Val Thr Gly Asn  
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Ala Asp Lys Asn Lys Ser Val His Tyr Gln Ala Leu Thr Ala Asp Arg  
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Glu Trp Val Arg Ser Arg Thr Gly Leu Gly Val Asn Pro Tyr Asp Thr  
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Lys Ser Val Lys Phe Ala Gln Gln Val Ala Leu Glu Ala Lys Thr Val  
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Ala Asp Ile Ala Asn Ala Leu Ala Ser Ala Tyr Pro Glu Leu Lys Val  
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Ser His Ile Lys Val Thr Pro Leu Asp Ser Arg Leu Asn Ala Pro Ala  
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Ala Glu Val Val Lys Ala Phe Arg Gln Gly Asn Arg Asp Val Ala Ser  
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Ser Gln Pro Lys Ala Asp Ser Val Asn Gln Val Lys Glu Thr Pro Val  
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Thr Lys Gln Glu Pro Val Thr Ser Thr Val Gln Thr Lys Thr Pro Val  
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Ser Glu Ser Val Lys Thr Glu Pro Thr Thr Lys Glu Ser Ser Pro Gln  
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Ala Ile Lys Glu Pro Val Asn Gln Ser Glu Lys Gln Asp Val Asn Leu  
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Glu Thr Ser Thr Lys Glu Ser Thr Val Thr Glu Glu Leu Lys Glu Gly  
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Asp Val Ala Gln Ala Leu Ser Ser Arg Ala Arg Tyr Glu Leu Phe  
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Thr Glu Lys Glu Thr Ala Asn Pro Ala Phe Asn Gly Glu Val Ile  
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Gly Lys Leu Leu Asn Ile Val Glu Gln Asp Gly Asp Thr Phe Lys  
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Trp Arg Leu Thr Ala Thr Ser Asn Thr Ala Ile Lys Asp Ala Lys  
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Ser Leu Leu Ser Leu Met Asp Leu Phe Leu Pro Asp Ile Asn Leu  
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Pro Leu Thr Ile Thr Ile Tyr Gly Ser Gly Ala Arg Gly Ile Ala  
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Thr Gly Thr Gly Ala Lys Gly Lys Ile Asn Pro Lys Thr Tyr Thr  
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Glu Ser Leu Val Tyr Ser Thr Glu Gln Leu Gln Lys Ala Thr Gln  
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Glu Lys Leu Ala Glu Lys Ala Lys Asp Pro Thr Trp Lys Lys Gly  
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Asp Phe Leu Thr Gln Lys Glu Leu Asn Asp Ile Gln Ala Ser Leu  
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Asn Asn Leu Ala Pro Met Ile Glu Thr Gly Ser Gln Thr Phe Tyr  
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Ile Ala Gly Ser Glu Asn Ala Glu Val Ala Asn Gln Val Leu Ala  
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Thr Asn Leu Asp Asp Arg Met Arg Val Pro Met Ser Ile Tyr Ala  
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Pro Ala Gln Ala Gly Val Ala Gly Ile Pro Phe Met Thr Ile Gly  
1910 1915 1920

Thr Gly Asp Gly Met Met Met Gln Thr Leu Ser Thr Met Lys Gly  
1925 1930 1935

Ala Pro Lys Asn Thr Leu Lys Ile Phe Asp Gly Met Asn Ile Gly  
1940 1945 1950

Leu Asn Asp Ile Thr Asp Ala Ser Arg Lys Ala Asn Glu Ala Val  
1955 1960 1965

Tyr Thr Ser Trp Gln Gly Asn Pro Ile Lys Asn Val Tyr Glu Ser  
1970 1975 1980

Tyr Ala Lys Phe Met Lys Asn Val Asp Phe Ser Lys Leu Ser Pro  
1985 1990 1995

Glu Ala Leu Glu Ala Ile Gly Lys Ser Ala Leu Glu Tyr Asp Gln  
2000 2005 2010

Arg Glu Asn Ala Thr Val Asp Asp Ile Ala Asn Ala Ala Ser Leu  
2015 2020 2025

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Asn Met Thr Pro Glu Gln Gln Ala Asp Glu Leu Asn Lys Leu Phe  
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Ser	Arg	Ala	Arg	Tyr	Glu	Leu	Phe	Thr	Glu	Lys	Glu	Thr	Ala	Asn	Pro
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Thr Phe Lys Tyr Asn Glu Gln Leu Leu Gln Thr Ala Val Leu Ala Gly  
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Leu Gln Trp Arg Leu Thr Ala Thr Ser Asn Thr Ala Ile Lys Asp Ala  
165 170 175

Lys Asp Val Ala Ala Ile Thr Gly Ile Asp Gln Ala Leu Leu Pro Glu  
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Leu Tyr Thr Ile Thr Glu Leu Asp Ser Phe Asp Pro Ile Asn Ser Phe  
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Lys Leu Val Ser Ser Val Thr Asp Ala Ile Tyr Glu Arg Met Ser Asp  
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Asp Ser Val Thr Asn Ala Lys Gln Val Asp Val Ser Thr Ala Thr Ala  
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Gln Lys Lys Ala Glu Gln Gly Val Thr Thr Pro Leu Val Ser Pro Asp  
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Ala Ala Tyr Gln Met Gln Ala Ala Arg Thr Gly Asn Val Gly Ala Asn  
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Ala Phe Glu Pro Gly Thr Val Gln Ser Asp Phe Met Asn Leu Thr Pro  
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Met Gln Ile Met Asn Lys Tyr Gly Val Glu Gln Gly Leu Gln Leu Ile  
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Asn Ala Arg Ala Asp Ala Gly Asn Gln Val Phe Asn Asp Ser Val Thr  
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Thr Arg Thr Pro Gly Glu Glu Leu Gly Asp Ile Ala Thr Gly Val Gly  
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Leu Gly Phe Val Asn Thr Leu Gly Gly Ile Gly Ala Leu Gly Ala Gly  
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Leu Leu Asn Asp Asp Ala Gly Ala Val Val Ala Gln Gln Leu Ser Lys  
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Phe Asn Asp Ala Val His Ala Thr Gln Ser Gln Ala Leu Gln Asp Lys  
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Arg Lys Leu Phe Ala Ala Arg Asn Leu Met Asn Glu Val Glu Ser Glu  
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Arg Gln Tyr Gln Thr Asp Lys Lys Glu Gly Thr Asn Asp Ile Val Ala  
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Ser Leu Ser Lys Phe Gly Arg Asp Phe Val Gly Ser Ile Glu Asn Ala  
245 250 255

Ala Gln Thr Asp Ser Ile Ile Ser Asp Gly Leu Ala Glu Gly Val Gly  
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Ser Leu Leu Gly Ala Gly Pro Val Leu Arg Gly Ala Ser Leu Leu Gly  
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Lys Ala Val Val Pro Ala Asn Thr Leu Arg Ser Ala Ala Leu Ala Gly  
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Ala Ile Asp Ala Gly Thr Gly Thr Gln Ser Leu Ala Arg Ile Ala Ser  
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Thr Val Gly Arg Ala Ala Pro Gly Met Val Gly Val Gly Ala Met Glu  
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Ala Gly Gly Ala Tyr Gln Gln Thr Ala Asp Glu Ile Met Lys Met Ser  
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Gly Met Ser Pro Glu Gln Ala Arg Arg Gln Thr Ala Ser Glu Thr Gly  
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Leu Thr Ala Ala Ala Ile Gln Leu Pro Ile Ala Ala Ala Thr Gly Pro  
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Leu Val Ser Arg Phe Glu Met Ala Pro Phe Arg Ala Gly Ser Leu Gly  
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Ala Val Gly Met Asn Leu Ala Arg Glu Thr Val Glu Glu Gly Val Gln  
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Gly Ala Thr Gly Gln Leu Ala Gln Asn Ile Ala Gln Gln Gln Asn Ile  
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Asp Lys Asn Gln Asp Leu Leu Lys Gly Val Gly Thr Gln Ala Gly Leu  
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Gly Ala Leu Tyr Gly Phe Gly Ser Ala Gly Val Val Gln Ala Pro Ala  
465 470 475 480

Gly Ala Ala Arg Leu Ala Gly Ala Ala Thr Ala Pro Val Leu Arg Thr  
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Thr Met Ala Gly Val Lys Ala Ala Gly Ser Val Ala Gly Lys Val Val  
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His Gln Tyr Val Ser Asp Leu Met Asn Ala Thr Arg Phe Asn Pro Glu  
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Asn Tyr Gln Glu Ala Pro Glu His Ile Arg Asn Ala Val Ala Gly Ser  
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Arg Tyr Thr Asn Leu Thr Ala Asn Ile Gln Asn Thr Pro Lys Val Ile  
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Gly Ser Leu Asn Val Thr Glu Glu Ser Ser Pro Gln Glu Met Gln Asn  
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Val Asn Val Val Leu Lys His Ala Ala Asp Gly Arg Ile Lys Leu Asn  
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Asn Arg Gln Ile Ala Ala Leu Gln Asn Ala Ala Ile Leu Lys Gly  
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Ala Arg Glu Tyr Asp Ala Glu Ala Ala Arg Leu Gly Leu Arg Pro Gln  
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Gly Gln Tyr Ser Ala Leu Gln His Ala Asn Arg Ile Arg Ser Ala Tyr  
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Gln Phe Ala Gln His Met Gln Asn Lys Val Gly Ala Leu Asn Glu His  
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850 855 860

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Asn Pro Tyr Asp Thr Lys Ser Val Lys Phe Ala Gln Gln Val Ala Leu  
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Glu Ala Lys Thr Val Ala Asp Ile Ala Asn Ala Leu Ala Ser Ala Tyr  
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Arg Asp Val Ala Ser Ser Gln Pro Lys Ala Asp Ser Val Asn Gln Val  
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Lys Glu Thr Pro Val Thr Lys Gln Glu Pro Val Thr Ser Thr Val Gln  
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Tyr Thr Lys Gly Ile Pro Thr Ala Met Ala Ala Glu Ile Leu Ala  
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Ser Glu Ile Asp Pro Asp Asn Lys Lys Thr Ile Gly Leu Tyr Thr  
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Met Gln Met Leu Gly Lys Tyr Asn Pro Gln Ser Ala Lys Leu Val  
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Gly Leu Phe Thr Pro Asp Trp Ile Arg Asn Ile Ala Lys Gly Gly  
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Pro Ile Gln Ser Gln Ile Asp Ser Leu Leu Ser Leu Met Asp Leu  
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Asp Ala Ile Tyr Glu Arg Met Ser Asp Val Leu Lys Ala Arg Ala  
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Lys Asp Pro Asn Ile Ser Ala Ala Met Ala Met Phe Gly Lys Gln  
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Ala Ala Ser Glu Ala His Ala Glu Glu Leu Leu Ala Arg Phe Leu  
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Lys Asp Met Glu Thr Leu Thr Ser Thr Val Pro Val Lys Arg Lys  
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Gly Val Leu Glu Leu Gln Ser Thr Gly Thr Gly Ala Lys Gly Lys  
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Ile Asn Pro Lys Thr Tyr Thr Ile Lys Gly Glu Gln Leu Lys Ala  
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Leu Gln Glu Asn Met Leu His Phe Phe Val Glu Pro Leu Arg Asn  
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Gly Ile Thr Gln Thr Val Gly Glu Ser Leu Val Tyr Ser Thr Glu  
1835 1840 1845

Gln Leu Gln Lys Ala Thr Gln Ile Gln Ser Val Val Leu Glu Asp  
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Met Phe Lys Gln Arg Val Gln Glu Lys Leu Ala Glu Lys Ala Lys  
1865 1870 1875

Asp Pro Thr Trp Lys Lys Gly Asp Phe Leu Thr Gln Lys Glu Leu  
1880 1885 1890

Asn Asp Ile Gln Ala Ser Leu Asn Asn Leu Ala Pro Met Ile Glu  
1895 1900 1905

Thr Gly Ser Gln Thr Phe Tyr Ile Ala Gly Ser Glu Asn Ala Glu  
1910 1915 1920

Val Ala Asn Gln Val Leu Ala Thr Asn Leu Asp Asp Arg Met Arg  
1925 1930 1935

Val Pro Met Ser Ile Tyr Ala Pro Ala Gln Ala Gly Val Ala Gly  
1940 1945 1950

Ile Pro Phe Met Thr Ile Gly Thr Gly Asp Gly Met Met Met Gln  
1955 1960 1965

Thr Leu Ser Thr Met Lys Gly Ala Pro Lys Asn Thr Leu Lys Ile  
1970 1975 1980

Phe Asp Gly Met Asn Ile Gly Leu Asn Asp Ile Thr Asp Ala Ser  
1985 1990 1995

Arg Lys Ala Asn Glu Ala Val Tyr Thr Ser Trp Gln Gly Asn Pro  
2000 2005 2010

Ile Lys Asn Val Tyr Glu Ser Tyr Ala Lys Phe Met Lys Asn Val  
2015 2020 2025

Asp Phe Ser Lys Leu Ser Pro Glu Ala Leu Glu Ala Ile Gly Lys  
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Ser Ala Leu Glu Tyr Asp Gln Arg Glu Asn Ala Thr Val Asp Asp  
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Ala Leu Gly Val Asp Ile Arg His Lys Val Leu Asp Lys Val Asn  
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Leu Ser Ile Asp Gln Met Ala Ala Val Gly Ala Pro Tyr Gln Asn  
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Asn Gly Lys Ile Asp Leu Ser Asn Met Thr Pro Glu Gln Gln Ala  
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Gln Lys Val Ala Lys Ala Arg Ala Glu Val Lys Glu Glu Thr Val  
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Ser Glu Lys Glu Pro Val Asn Pro Asp Phe Gly Met Val Gly Arg  
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Glu His Lys Ala Ser Gly Val Arg Ile Leu Ser Ala Thr Ala Ile  
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Arg Asn Leu Ala Lys Ile Ser Asn Leu Pro Ser Thr Gln Ala Ala  
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Thr Leu Ala Glu Ile Gln Lys Ser Leu Ala Ala Lys Asp Tyr Lys  
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Ile Ile Tyr Gly Thr Pro Thr Gln Val Ala Glu Tyr Ala Arg Gln  
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Lys Asn Val Thr Glu Leu Thr Ser Gln Glu Met Glu Glu Ala Gln  
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Ala Gly Asn Ile Tyr Gly Trp Thr Asn Phe Asp Asp Lys Thr Ile  
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Tyr Leu Val Ser Pro Ser Met Glu Thr Leu Ile His Glu Leu Val  
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His Ala Ser Thr Phe Glu Glu Val Tyr Ser Phe Tyr Gln Gly Asn  
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Glu Val Ser Pro Thr Ser Lys Gln Ala Ile Glu Asn Leu Glu Gly  
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Ala Leu Asn Glu Phe Met Ala Trp Gly Leu Ala Asn Arg Ala Leu  
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Asp Val Tyr Gln Ala Ile Lys Lys Leu Ile Trp Gly Arg Lys Gln  
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Gln Pro Phe His Asp Leu Val Asn Asp Ile Val Gly Arg Thr Lys  
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Lys Glu Phe Ala Lys Leu Asn Ser Gln Ser Phe Thr Arg Ile Gly  
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Thr Tyr Gln Gly Ser Thr Gly Phe Arg Thr Gly Ser Lys Gly Tyr  
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Tyr Phe Ser Pro Val Ala Ala Arg Ala Pro Tyr Ser Gln Gly Ile  
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Leu Gln Asn Val Arg Asn Thr Ala Gly Gly Val Asp Ile Gly Thr  
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Val Ala Tyr Glu Gln Ser Val Asp Pro Asn Met Leu Lys His Leu  
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Ile Glu Gln Leu His Ala Met Tyr Glu Lys Asp Ile Lys Asp Ser  
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Ser Ala Asn Lys Ser Gln Tyr Val Asn Leu Leu Gly Lys Ile Asp  
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Arg His Lys Ala Glu Glu Leu Phe Gly Lys Asp Glu Leu Trp Val  
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Arg Arg Asp Met Leu Asn Asp Ala Leu Gly Tyr Arg Ala Ala Ser  
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Val Lys Asp Ala Lys Thr Val Ile Val Val Lys Ser Val Val Val  
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Ser Glu Ile Asn Gln Tyr Ile Lys Ser Arg Leu Arg Gln Ile Asp  
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Arg Lys Leu Lys Thr Glu Ile Gln Ser Ile Thr Asp Ser His Arg  
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Arg Met Ser Ile Trp Pro Leu Ile Glu Ala Gly Glu Phe Ser Ser  
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Gly Lys Ile His Glu Tyr Met Glu Lys Leu Ala Asn Lys Leu Pro  
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Glu Lys Val Arg Asn Ala Gly Arg Tyr Ala Leu Ile Ala Lys Asp  
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Thr Ala Leu Phe Gln Gly Ile Gln Lys Thr Val Glu Tyr Ser Asp  
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Phe Ile Ala Lys Ala Ile Ile Tyr Asp Asp Leu Val Lys Arg Lys  
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Ser Met Gly Leu Met Trp Phe Tyr Asn Phe Lys Ile Arg Ser Ile  
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